Pope Valley Basin

- Groundwater Basin Number: 5-68
- County: Napa
- Surface Area: 7180 acres (11 square miles)

Basin Boundaries and Hydrology

The Pope Valley groundwater basin occupies a northwest trending structural depression in the central Coast Ranges, approximately 5 miles east of Lake Berryessa. The Pope Valley is approximately 9 miles in length from its northwestern boundary near the town of Aetna Springs to its southeastern margin near the confluence of Maxwell and Hardin Creeks. The basin ranges to 2 miles in width. Mountains of the Coast Ranges surround the Pope Valley Basin on all sides. The boundary between the water-bearing and non-water-bearing materials roughly coincides with the edge of the valley floor (DWR, 1962).

Pope and Maxwell Creeks drain the Pope Valley groundwater basin. The annual precipitation ranges from less than 36 inches in the southeast to more than 40 inches in the northwest (USDA, 1999).

Hydrogeologic Information

Water Bearing Formations

The Quaternary alluvium within the Pope Valley groundwater basin is considered the principal water bearing deposit (NCFC&WCD, 1991). Historically stream development has been limited to small creeks (DWR, 1962). Since large stream flows were lacking, accumulations of alluvium seems to have been restricted to the range of 25 feet to 30 feet (DWR, 1962). The alluvial material is principally composed of silty to clayey sands and gravels. With an assumed specific yield of 3 percent most wells yield less than 100 gallons per minute (NCFC&WCD, 1991).

Small outcrops of the Sonoma Volcanics of Pliocene age occur in the vicinity of Aetna Springs. They are considered to be water bearing but their limited distribution restricts the quantity of groundwater that can be extracted from them to insignificant proportions (DWR, 1962).

Bedrock beneath the Pope Valley groundwater basin is comprised predominantly of Lower Cretaceous marine sedimentary rocks, which is also found cropping out in the surrounding hills.

Recharge Areas

Natural recharge occurs from infiltration of precipitation that falls on the basin floor and in the upland areas within the drainage basin of the valley.

Groundwater Level Trends

No published information was found that would indicate groundwater level trends for the Pope Valley groundwater basin.

Groundwater Storage

Groundwater Storage Capacity. Groundwater storage capacity for the Pope Valley groundwater basin is estimated to contain 7000 acre-feet of water (NCFC&WCD, 1991)(DWR, 1962).

Groundwater in Storage. No published report was found addressing the quantity of groundwater in storage.

Groundwater Budget (Type C)

Not enough data exists presently to provide either an estimate of the Pope Valley basin's groundwater budget or the groundwater extraction from the basin.

Groundwater Quality

Characterization. No published report was found characterizing the groundwater quality of the Pope Valley groundwater basin.

Well Characteristics

	Well yields (gal/min)	
Municipal/Irrigation	Range: –	Average:
	Total depths (ft)	
Domestic	Range: 21-600	Average: 169 (Wellma)
Municipal/Irrigation	Range: 60-300	Average: 194 (Wellma)

Active Monitoring Data

Agency	Parameter	Number of wells /measurement frequency
	Groundwater levels	
	Miscellaneous water quality	
Department of Health Services and cooperators	Title 22 water quality	1 Well

Basin Management

Groundwater management:

Water agencies

Public	Napa County Flood Control and Water Conservation District
Private	

References Cited

California Department of Water Resources. *Reconnaissance Report on Upper Putah Creek Investigation*. Bulletin 99, March 1962.

James M. Montgomery Consulting Engineers Inc. *Water Resource Study for the Napa County Region.* Napa County Flood and Water Conservation District, January 1991.

USDA. *United States Average Annual Precipitation, 1961-1990: Map Layer*, 1999.

Errata

Changes made to the basin description will be noted here.